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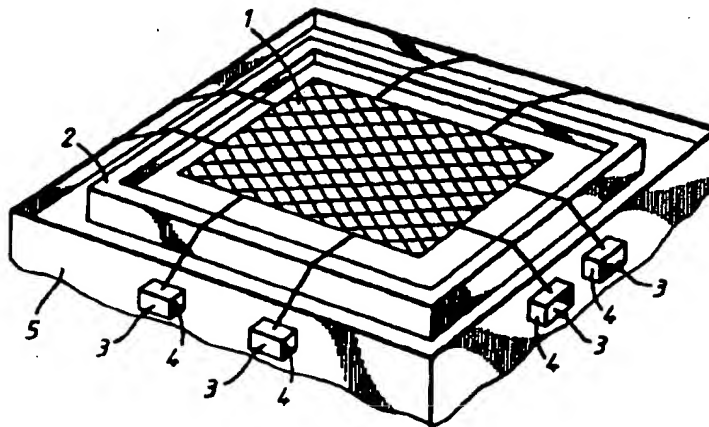
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EP 0535976 A US 4635551 A US 3972284 A

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UK CL (Edition M) B6C CSAA CSAB CSAC CSAX CSF
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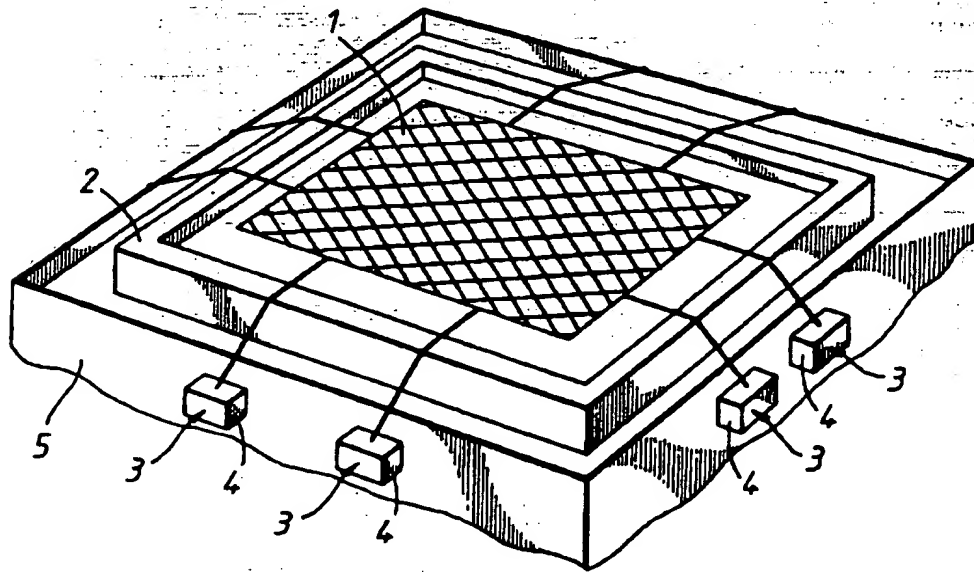
(54) Applying information to mesh formations

(57) A method and arrangement for applying alphanumeric characters to a mesh formation allows the characters to be seen from one side of the mesh. The mesh may be a fishing net or a football goal net, and the application may be by heat curing decalcomania, by screen printing or by use of a stencil. The mesh can be held taut on a frame 2 by weight 4, and held above a bath 5 of colouring medium.



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2291835**PRESENTATION OF INFORMATION ON MESH FORMATIONS**

This invention relates to methods of and means for applying alphanumeric data to mesh-like formations.

5 In particular, but not exclusively, the present invention is concerned with the application of alphanumeric information to the nets or the like utilised in connection with various sports such as netball, football of the various codes such as Association and American football; Ice Hockey etc.

10 Other applications of the concepts of the invention can be to industrial and/or commercial usage in which net like formations are required/utilised.

According to the present invention there is provided a method for the presentation of information on meshes
15 and/or mesh-like formations by applying alphanumeric characters to the mesh or mesh-like formation in such manner that the characters as seen from one side of the mesh and/or mesh-like formation are not necessarily the same as those that may or may not be provided upon the
20 opposite side of the mesh and/or mesh-like formation.

Preferably, the meshes and/or mesh-like formations comprise nets as used for sporting activities.

In a preferred application in which the meshes and/or mesh-like formations comprise nets of the kind as may be
25 used for fishing and in which the alphanumeric characters are such as to mark net with information identifying the owner or user of the net, the arrangement being such that

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the thus marked net can be readily identified if lost at sea, if fouling the propellers of other boats, or is not of a permitted mesh size.

Conveniently, the alphanumeric information is produced as a
5 coloured media which is of such characteristics that it can
be transferred from a backing sheet to the net, the net
being pretreated with an adhesive after having been laid
out on a support table or the like, applying the colouring
medium to the net by overlaying the latter with the backing
10 sheet, curing the adhesive sufficiently to provide a degree
of stiction between the net and colouring medium which is
greater than that between the colouring medium and the
backing sheet, removing the backing sheet, and following
removal of the backing sheet finally curing the adhesive by
15 the means appropriate to the adhesive being used.

In a further preferred arrangement the mesh or mesh-like
formation, to be marked with alphanumeric characters is
spread out so that the individual strands of the mesh or
mesh-like formation are rendered taut, the thus spread out
20 mesh or mesh-like formation net being held in the desired
taut position by the application of tension.

A further application is, for example, to nets that may be
used for fishing so that such nets may be readily marked
with identification information identifying the owner or
25 user of the net. This enables such person to be readily
traced when a net is lost at sea and, for example,
fouls the propellers of other boats, is not of a permitted
mesh size etc.

For a better understanding of the invention various modes
30 of applying alphanumeric characters to a net or other mesh
like formation will be considered.

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for a further understanding of the invention reference will now be made to the accompanying drawing which very schematically illustrates an arrangement for carrying out the method of the invention.

- 5 In a first proposal a mesh like formation e.e., net, to be marked with alphanumeric characters is spread out so that the individual strands of the net are rendered taut. The thus spread out net is held in the desired taut position by tensioning the strands of the net by the application of
10 tension in what ever manner is thought appropriate such as, for example, by weights, tensioning rolls etc.

As may be seen from the drawing the net 1 to be treated is mounted in a rectangular frame 2, and is held in a taut condition by tensioning means 3 represented by weights 4.

- 15 The frame 2 can be open top and bottom construction to allow the frame on introduction into a colouring media containing tank very schematically shown at 5 to be positioned or so positionally set that the media is able to contact only one side of the net.

- 20 In a variation the frame can be provided with a base plate whereby the net is supported over its whole area to allow the upper surface of the net mounted thereby to receive the colouring media.

- 25 Also where the net size demands parts of the net can be allowed to overhang the periphery of the frame.

Furthermore clamping bars or the like 5 may be provided to facilitate the application of tension to the net.

- The extent of tensioning required i.e., the weighting down of the net will be a matter of trial and error so as to
30 take into account any relative unevenness of the mesh, and

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also as far as possible to eliminate sagging of the central regions of the net.

5 Colouring media is then so applied to the net strands such that the media only contacts the regions of the stands to one side of the medial plane of the strands.

This application of the colouring media can be effected in various ways by, for example, utilising a stencil for each colour in the case of an multi-coloured application of the colouring media.

10 The application of the colouring media can be from above the net region to be marked or from the underside of the region to be marked.

15 In practice, it is important to ensure that as far as possible the colouring media is restricted to one side of the net. This, will be important in situations where the information on the net is required to be different or where the direction of the alphanumeric characters applied has to be changed on opposite sides of the net.

20 The application of the colouring media from the underside has been found to lend itself to various possibilities in that since the net is above the actual means used to apply the colouring media any surplus material will tend to fall away from the net. Furthermore, it has been found that the colouring media tends not to run to the upper side of
25 the net during such application.

In a further possibility the techniques of screen printing are contemplated. It is believed that this technique could find application in the case of nets or other mesh-like formations with relatively small mesh sizes.

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It will be appreciated that an important factor in relation to the characteristics of the colouring medium used is that it should be proof against the effects of any environment in which it is to be used i.e., water proof.

5 Furthermore, it is important that the colouring material should not crack or flake off from a net due to the flexure, bending, stretching etc. of the net to which it has been applied.

10 For this reason it is believed that a material which does not harden to the extent that it becomes flexure brittle needs to be used.

In practice, it has been found that it is useful, if not important, to degrease a net prior to the application of the colouring media or media.

15 Where the colouring media is a thermoplastic formulation it is clearly convenient to apply the media whilst in the heated state.

20 This use of thermoplastics media lends itself to the possibility of using a shallow bath of the medium and laying the net to be treated into the bath. With this method of treatment the depth of the medium needs to be somewhat less than the radius of the strands of the net so as to ensure as far as possible that the medium does not unnecessarily cover too much of the net material.

25 In a further method the alphanumeric information is produced in a coloured media which is of such characteristics that it can be transferred from a backing sheet to the net strands. In this case the net is pretreated with a suitable adhesive after having been laid
30 out on a support table or the like.

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5. The colouring medium is then applied to the net by overlaying the latter with the backing sheet. The adhesive is enabled to cure sufficiently to provide a degree of stiction between the net and colouring medium which is greater than that between the colouring medium and the backing sheet. Following removal of the backing sheet the adhesive is finally cured by the means appropriate to the adhesive i.e., by heat.

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CLAIMS

1. A method for the presentation of information on meshes and/or mesh-like formations by applying alphanumeric characters to the mesh or mesh-like formation in such
5 manner that the characters as seen from one side of the mesh and/or mesh-like formation are not necessarily the same as those that may or may not be provided upon the opposite side of the mesh and/or mesh-like formation.
2. A method as claimed in claim 1, and in which the meshes
10 and/or mesh-like formations comprise nets as used for sporting activities.
3. A method as claimed in claim 2, and in which meshes and/or mesh-like formations comprise the nets of the kind as may be used for fishing and in which the alphanumeric
15 characters are such as to mark net with information identifying the owner or user of the net, the arrangement being such that the thus marked net can be readily identified if lost at sea, if fouling the propellers of other boats, or is not of a permitted mesh size.
- 20 4. A method as claimed in any preceding claim, and in which which the alphanumeric information is produced in a coloured media which is of such characteristics that it can be transferred from a backing sheet to the net, the net being pretreated with an adhesive after having been laid
25 out on a support table or the like, applying the colouring medium to the net by overlaying the latter with the backing sheet, curing the adhesive sufficiently to provide a degree of stiction between the net and colouring medium which is greater than that between the colouring medium and the

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backing sheet, removing the backing sheet, and following removal of the backing sheet finally curing the adhesive by the means appropriate to the adhesive being used.

5 5. A method as claimed in any of claims 1 to 3, and wherein a mesh or mesh-like formation, to be marked with alphanumeric characters is spread out so that the individual strands of the mesh or mesh-like formation are rendered taut, the thus spread out mesh or mesh-like formation net being held in the desired taut position by
10 the application of tension.

6. A method as claimed in claim 5, in which the tensioning is effected by means of weights, tensioning rolls or the like.

7. A method as claimed in claim 5, in which the tensioning
15 is effected by engaging the mesh or mesh-like formation with a rectangular frame and exerting tension in the net to produce a uniformly level

8. A method as claimed in claim 7, and in which when portions of the mesh or mesh-like formation overhangs the
20 rectangle, the portions of the net that overhang the periphery of the frame are weighted to induce tension in the mesh and/or mesh-like formation, the weighting being such as to take into account any relative unevenness of the mesh, and also to reduce as far as possible sagging of the
25 central regions of the net.

8. A method as claimed in any preceding claim and in which colouring media is so applied to the net strands that the media only contacts the regions of the strands to one side of the medial plane of the strands.

30 9. A method for the presentation of information on meshes

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and/or mesh-like formations by applying alphanumeric characters to the mesh or mesh-like formation substantially as herein before described.

10. An arrangement for the presentation of information on
5 meshes and/or mesh-like formations by applying alphanumeric
characters to the mesh or mesh-like formation including
means for supporting a mesh or mesh-like construction in a
taut condition in such manner as to enable the application
of a colouring media to the net in such manner that the
10 media is effectively restricted to one side of the net.

11. An arrangement for the presentation of information on
meshes and/or mesh-like formations by applying alphanumeric
characters to the mesh or mesh-like formation substantially
as hereinbefore described with reference to the
15 accompanying drawing.

10

Patents Act 1977
Examiner's report to the Comptroller under Section 17
(The Search report)

Application number
 GB 9415095.0

Relevant Technical Fields

Search Examiner
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- (i) UK CI (Ed.N) B6C: CSAA, CSAB, CSAC, CSAX, CSF
 (ii) Int CI (Ed.6) B41F: 17/00, 17/10, 17/38 B41D: 7/00
 B41M: 1/26, 5/26 B44C: 1/02

Date of completion of Search
 13 OCTOBER 1994

Databases (see below)

- (i) UK Patent Office collections of GB, EP, WO and US patent specifications.

Documents considered relevant
 following a search in respect of
 Claims :-
 1-11

(ii) ONLINE DATABASE: WPI

Categories of documents

- | | |
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| <p>X: Document indicating lack of novelty or of inventive step.</p> <p>Y: Document indicating lack of inventive step if combined with one or more other documents of the same category.</p> <p>A: Document indicating technological background and/or state of the art.</p> | <p>P: Document published on or after the declared priority date but before the filing date of the present application.</p> <p>E: Patent document published on or after, but with priority date earlier than, the filing date of the present application.</p> <p>&: Member of the same patent family; corresponding document.</p> |
|--|---|

Category	Identity of document and relevant passages		Relevant to claim(s)
X	GB 2077661 A	(KENDALL) note weight 30 Figure 3	1, 11
X	GB 1503929 A	(KANEBO) note woven, knitted, etc fabrics	1, 11
X	GB 1312070 A	(GLOVER) note open mesh structure	1, 11
X	EP 0535976 A	(HANNA) see eg. Figure 2 and use of stencils	1, 11
X	US 4635551	(COUTURE)	1, 11
X	US 3972284	(BELL) note support for canvas	1, 11

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